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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR  | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|-----------------------|---------------------|------------------|
| 10/068,135   | 02/05/2002  | David Wayne Schroeder | 5490-000220         | 7517             |
| 27572  | 7590        | 03/08/2005            | EXAMINER            |                  |
| HARNESS, DICKEY & PIERCE, P.L.C.<br>P.O. BOX 828<br>BLOOMFIELD HILLS, MI 48303 |             |                       | RAMANA, ANURADHA    |                  |
|  |             |                       | ART UNIT            | PAPER NUMBER     |
|  |             |                       | 3732                |                  |

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                 |                        |
|------------------------------|-----------------|------------------------|
| <b>Office Action Summary</b> | Application No. | Applicant(s)           |
|                              | 10/068,135      | SCHROEDER, DAVID WAYNE |
| Examiner                     | Art Unit        |                        |
| Anu Ramana                   | 3732            |                        |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
 THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 20 December 2004.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-3,5,8-13,17-22,24,25 and 28-34 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-3,5,8-13,17-22,24,25 and 28-34 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 2/5/2002 is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Objections***

Claims 1-3, 5 and 8-10 are objected to because of the following informalities. In claim 1, it appears that "backing member" (line 8) should be "backing portion," and "ceramic liner" (line 14) should be "ceramic insert portion," to correct minor typographical errors. In claim 2, line 2, "ceramic insert member" should be "ceramic insert portion." In claim 3, line 2, "ceramic insert" should be "ceramic insert portion." In claims 8-10, "backing member" should be "backing portion," for clarity. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 8-13 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bateman et al. (US 5,879,404) in view of Homsy (US 4,778,474).

Bateman et al. disclose a composite acetabular liner component having a ceramic insert portion 11; an intermediate or "backing portion" 13 made of a thermoplastic material such as polymethylmethacrylate, polyethylene or ultra-high molecular weight polyethylene molded on portion 11, wherein component 13 has a shoulder or "groove" or "connection system" 14; and a femoral component having a ball-like or "ball-shaped" head during hip replacement surgery (Fig. 5, col. 1, lines 10-39, col. 2, lines 43-47 and lines 66-67, col. 3, lines 1-14, col. 4, lines 8-19 and col. 5, lines 42-51).

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Bateman et al. disclose all elements of the claimed invention except for a roughened surface or texture and radially disposed macrogrooves on the outer surface of ceramic insert 11.

Homsy teaches providing a roughness 28'a on the outer surface of a cup 28a in order to attach an elastomeric layer 33 to the outer surface of the cup by mechanical interlocking and radial grooves (Fig. 3 and col. 4, lines 47-52). See marked up Fig. 3 below.

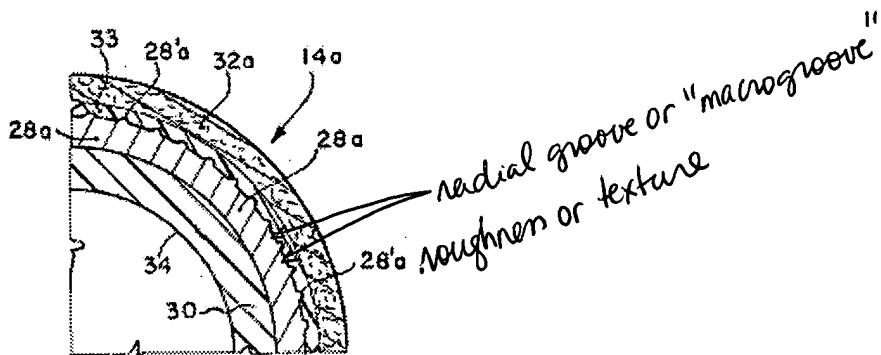


FIG. 3.

Accordingly it would have been obvious to one of ordinary skill in the art at the time of the invention was made to construct the composite acetabular liner component of Bateman et al. with the outer surface of insert portion 11 having a roughness and radial grooves, as taught by Homsy, in order to enhance adhesion between backing portion 13 and insert portion 11.

With regard to providing a roughness having an arithmetic mean roughness in a range of about 5 to about 10 microns or a ten-point mean roughness in a range of about 50 to about 75 microns, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With regard to the groove being "adapted to receive an inter-connection member," and the connection system being "adapted to interact with an acetabular

component," it has been held that the recitation that an element is adapted to perform a function is not a positive limitation but only requires the ability to so perform and does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Claims 19-22, 24, 25 and 28-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bateman et al. (US 5,879,404) in view of Homsy (US 4,778,474) further in view of Lin et al. (US 5,782,930).

Regarding claims 19 and 20, the combination of Bateman et al. and Homsy disclose all elements of the claimed invention except for a securing member to interconnect the acetabulum member and the composite acetabular component. See discussion for claims 1 and 11. Note that Bateman et al. disclose locking of various acetabular components (col. 4, lines 13-18).

Regarding claim 21, Bateman et al. disclose a method of making a composite acetabular component having the steps of: providing a ceramic insert; providing a thermoplastic material; softening the thermoplastic material (e.g. injection or compression molding (col. 4, lines 37-41); and contacting the outer surface of the ceramic insert with the softened thermoplastic material to form a backing portion around the ceramic insert (col. 4, lines 27-33 and lines 37-48).

Lin et al. teach a locking ring for securing a composite bearing component 101 inside a shell component or "acetabulum member" 102 to allow for easy orientation and installation wherein the locking ring is situated in an arcuate groove in the acetabulum member and radially extends to engage a corresponding axially aligned arcuate groove formed in the bearing component (Fig. 1, col. 1, lines 9-23, col. 2, lines 3-14 and lines 51-58 and col. 6, lines 4-25).

Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a locking ring in the acetabulum replacement system of the combination of Bateman et al. and Homsy, as taught by Lin et al., for easy installation and orientation of the composite acetabular component inside the acetabulum member or shell.

With regard to the method steps of claims 21-22, 24-25 and 28-30, the step of imparting a texture to the outer surface of the ceramic insert member, contacting the textured outer surface of ceramic insert member with a softened thermoplastic material, and securing the composite acetabular component to the acetabulum member with an interconnecting or “locking” member, it is noted that these steps are rendered obvious by the combination of Bateman et al. Homsy and Lin et al. as discussed above.

With regard to the limitation, “longitudinally oriented macro-grooves,” Applicant has not disclosed that having a longitudinal orientation is for any particular purpose. Accordingly, longitudinal orientation of grooves is deemed to be a design consideration, which fails to patentably distinguish over the combination of Bateman et al., Homsy and Lin et al.

#### ***Response to Arguments***

Applicant’s arguments submitted under “REMARKS” in the response filed on December 20, 2004, have been considered but are moot in view of the new grounds of rejection with respect to claims 1-3, 5, 8-10, 11-13, 17-22, 24-25 and 28-34.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anu Ramana whose telephone number is (571) 272-4718. The examiner can normally be reached Monday through Friday between 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Kevin Shaver can be reached at (571) 272-4720. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AR *Annabelle Lamana*  
March 6, 2005

*Kevin Shaver*  
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